

SEQUENCE LISTING

<110> Tamatani, Takuya
Tezuka, Katsunari

<120> CELL SURFACE MOLECULE MEDIATING CELL
ADHESION AND SIGNAL TRANSMISSION

<130> 06501-039001

<140> US 09/383,551
<141> 1999-08-26

<150> PCT/JP98/00837
<151> 1998-02-27

<150> JAPAN 09-62290
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48

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Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
20          25          30

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96

ttt cac aac gga ggt gta caa att tta tgc aaa tat cct gac att gtc
 Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
 35 40 45

144

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cag caa ttt aaa atg cag ttg ctg aaa ggg ggg caa ata ctc tgc gat
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192

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240

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 35 40 45
 Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
 65 70 75 80
 Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
 115 120 125
 His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro
 130 135 140

Ile Gly Cys Ala Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu
 145 150 155 160
 Ile Cys Trp Leu Thr Lys Lys Tyr Ser Ser Ser Val His Asp Pro
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 Leu Phe Cys Leu Arg Ile Lys Val Leu Thr Gly Glu Ile Asn Gly Ser
 10 15 20 25

gcc aat tat gag atg ttt ata ttt cac aac gga ggt gta caa att tta 148
 Ala Asn Tyr Glu Met Phe Ile Phe His Asn Gly Gly Val Gln Ile Leu
 30 35 40

tgc aaa tat cct gac att gtc cag caa ttt aaa atg cag ttg ctg aaa 196
 Cys Lys Tyr Pro Asp Ile Val Gln Gln Phe Lys Met Gln Leu Leu Lys
 45 50 55

ggg ggg caa ata ctc tgc gat ctc act aag aca aaa gga agt gga aac 244
 Gly Gly Gln Ile Leu Cys Asp Leu Thr Lys Thr Lys Gly Ser Gly Asn
 60 65 70

aca gtg tcc att aag agt ctg aaa ttc tgc cat tct cag tta tcc aac 292
 Thr Val Ser Ile Lys Ser Leu Lys Phe Cys His Ser Gln Leu Ser Asn
 75 80 85

aac agt gtc tct ttt cta tac aac ttg gac cat tct cat gcc aac 340
 Asn Ser Val Ser Phe Leu Tyr Asn Leu Asp His Ser His Ala Asn
 90 95 100 105

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 Tyr Tyr Phe Cys Asn Leu Ser Ile Phe Asp Pro Pro Phe Lys Val
 110 115 120

act ctt aca gga gga tat ttg cat att tat gaa tca caa ctt tgt tgc 436
 Thr Leu Thr Gly Gly Tyr Leu His Ile Tyr Glu Ser Gln Leu Cys Cys
 125 130 135

cag ctg aag ttc tgg tta ccc ata gga tgt gca gcc ttt gtt gta gtc 484
 Gln Leu Lys Phe Trp Leu Pro Ile Gly Cys Ala Ala Phe Val Val Val

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Cys Ile Leu Gly Cys Ile Leu Ile Cys Trp Leu Thr Lys Lys Lys Tyr			
155	160	165	
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Val Asn Thr Ala Lys Lys Ser Arg Leu Thr Asp Val Thr Leu			
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ctt tta aca gga gaa atc aat ggc tcg gcc gat cat agg atg ttt tca	96
Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser	
20 25 30	

ttt cac aat gga ggt gta cag att tct tgt aaa tac cct gag act gtc	144
Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val	
35 40 45	

cag cag tta aaa atg cga ttg ttc aga gag aga gaa gtc ctc tgc gaa	192
Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu	
50 55 60	

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65 70 75 80	

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Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser				
100	105	110		
att ttt gac cca cct ctt caa gaa agg aac ctt agt gga gga tat			384	
Ile Phe Asp Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr				
115	120	125		
ttg cat att tat gaa tcc cag ctc tgc tgc cag ctg aag ctc tgg cta			432	
Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu				
130	135	140		
ccc gta ggg ttg cca gct ttc gtt gtg gta ctc ctt ttt gga tgc ata			480	
Pro Val Gly Leu Pro Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile				
145	150	155	160	
ctt atc atc tgg ttt tca aaa aag aaa tac gga tcc agt gtg cat gac			528	
Leu Ile Ile Trp Phe Ser Lys Lys Tyr Gly Ser Ser Val His Asp				
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Val Phe Val Phe Cys Phe Leu Ile Lys Leu Leu Thr Gly Glu Leu Asn				
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30				35
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50				55

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ctt tgt tgc cag ctg aag ctt tgg tta ccc gta ggg tgt gca gct ttt Leu Cys Cys Gln Leu Lys Leu Trp Leu Pro Val Gly Cys Ala Ala Phe 140 145 150	487
gtg gca gcg ctc ctt ttt gga tgc ata ttt atc gtc tgg ttt gca aaa Val Ala Ala Leu Leu Phe Gly Cys Ile Phe Ile Val Trp Phe Ala Lys 155 160 165	535
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atg gcg gca gtc aac aca aac aaa aag tcc aga ctt gca ggt aca gca Met Ala Ala Val Asn Thr Asn Lys Lys Ser Arg Leu Ala Gly Thr Ala 185 190 195	631
ccc ctt agg gct ttg ggg aga gga gaa cac tct tca tgt caa gac cgg Pro Leu Arg Ala Leu Gly Arg Gly Glu His Ser Ser Cys Gln Asp Arg 200 205 210 215	679
aat taatttgttt atttctattt taaaagaaaacatttttccctaaagat Asn	732
aattttgtta ttttatgtg aaagtctgaa tcttcatttt aactcgactt atatactctg tggatatta aaaataatgt ttgtaaaaaa aaaaaaaaaa aaaa	792 836
<210> 7	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 7	

ctgcttcaga tcaagcccta cttctcg	27
<210> 8	
<211> 32	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 8	
accctacggg taacggatcc ttcagctggc aa	32
<210> 9	
<211> 30	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 9	
taactgttcc tcgagaacat gaagtcaggc	30
<210> 10	
<211> 30	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 10	
atcctatggg taacggatcc ttcagctggc	30
<210> 11	
<211> 35	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 11	
cgtgatattg ctgaagagct tggcggcgaa tgggc	35
<210> 12	
<211> 34	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> primer for PCR	
<400> 12	
cattcaagtt tcagggaaact agtccatgcg ttcc	34

<210> 13
 <211> 200
 <212> PRT
 <213> Rattus norvegicus

<400> 13
 Met Lys Pro Tyr Phe Ser Cys Val Phe Val Phe Cys Phe Leu Ile Lys
 1 5 10 15
 Leu Leu Thr Gly Glu Leu Asn Asp Leu Ala Asn His Arg Met Phe Ser
 20 25 30
 Phe His Asp Gly Gly Val Gln Ile Ser Cys Asn Tyr Pro Glu Thr Val
 35 40 45
 Gln Gln Leu Lys Met Gln Leu Phe Lys Asp Arg Glu Val Leu Cys Asp
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Asn Pro
 65 70 75 80
 Met Ser Cys Pro Tyr Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Asp Asn Ala Asp Ser Ser Gln Gly Ser Tyr Phe Leu Cys Ser Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Lys Asn Leu Ser Gly Gly Tyr
 115 120 125
 Leu Leu Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140
 Pro Val Gly Cys Ala Ala Phe Val Ala Ala Leu Leu Phe Gly Cys Ile
 145 150 155 160
 Phe Ile Val Trp Phe Ala Lys Lys Tyr Arg Ser Ser Val His Asp
 165 170 175
 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
 180 185 190
 Ser Arg Leu Ala Gly Met Thr Ser
 195 200

<210> 14
 <211> 200
 <212> PRT
 <213> Mus musculus

<400> 14
 Met Lys Pro Tyr Phe Cys His Val Phe Val Phe Cys Phe Leu Ile Arg
 1 5 10 15
 Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser
 20 25 30
 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
 35 40 45
 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
 65 70 75 80
 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
 115 120 125
 Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140

Pro Val Gly Leu Pro Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
 145 150 155 160
 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
 165 170 175
 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
 180 185 190
 Ser Arg Leu Ala Gly Val Thr Ser
 195 200

<210> 15

<211> 216

<212> PRT

<213> Rattus norvegicus

<400> 15

Met Lys Pro Tyr Phe Ser Cys Val Phe Val Phe Cys Phe Leu Ile Lys
 1 5 10 15
 Leu Leu Thr Gly Glu Leu Asn Asp Leu Ala Asn His Arg Met Phe Ser
 20 25 30
 Phe His Asp Gly Gly Val Gln Ile Ser Cys Asn Tyr Pro Glu Thr Val
 35 40 45
 Gln Gln Leu Lys Met Gln Leu Phe Lys Asp Arg Glu Val Leu Cys Asp
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Asn Pro
 65 70 75 80
 Met Ser Cys Pro Tyr Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Asp Asn Ala Asp Ser Ser Gln Gly Ser Tyr Phe Leu Cys Ser Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Lys Asn Leu Ser Gly Gly Tyr
 115 120 125
 Leu Leu Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140
 Pro Val Gly Cys Ala Ala Phe Val Ala Ala Leu Leu Phe Gly Cys Ile
 145 150 155 160
 Phe Ile Val Trp Phe Ala Lys Lys Lys Tyr Arg Ser Ser Val His Asp
 165 170 175
 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
 180 185 190
 Ser Arg Leu Ala Gly Thr Ala Pro Leu Arg Ala Leu Gly Arg Gly Glu
 195 200 205
 His Ser Ser Cys Gln Asp Arg Asn
 210 215

<210> 16

<211> 200

<212> PRT

<213> Artificial Sequence

<220>

<223> consensus sequence

<221> VARIANT

<222> (1)...(200)

<223> Xaa = Any Amino Acid

<400> 16

Met Lys Pro Tyr Phe Xaa Xaa Val Phe Val Phe Cys Phe Leu Ile Lys
 1 5 10 15
 Leu Leu Thr Gly Glu Xaa Asn Xaa Xaa Ala Asn His Arg Met Phe Ser
 20 25 30
 Phe His Xaa Gly Gly Val Gln Ile Ser Cys Xaa Tyr Pro Glu Thr Val
 35 40 45
 Gin Gln Leu Lys Met Gln Leu Phe Lys Xaa Arg Glu Val Leu Cys Asp
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Asn Pro
 65 70 75 80
 Met Xaa Cys Xaa Tyr Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Xaa Asn Xaa Asp Ser Ser Gln Gly Ser Tyr Xaa Xaa Cys Ser Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Phe Gln Glu Xaa Asn Leu Ser Gly Gly Tyr
 115 120 125
 Leu Xaa Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140
 Pro Val Gly Cys Ala Ala Phe Val Xaa Xaa Leu Leu Phe Gly Cys Ile
 145 150 155 160
 Xaa Ile Xaa Trp Phe Xaa Lys Lys Lys Tyr Xaa Ser Ser Val His Asp
 165 170 175
 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
 180 185 190
 Ser Arg Leu Ala Gly Xaa Thr Xaa
 195 200

<210> 17

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> consensus sequence

<221> VARIANT

<222> (1)...(214)

<223> Xaa = Any Amino Acid

<400> 17

Met Leu Xaa Leu Xaa Leu Ala Trp Xaa Leu Xaa Leu Phe Xaa Leu Xaa
 1 5 10 15
 Ile Xaa Val Xaa Xaa Xaa Xaa Ile Xaa Val Xaa Gln Xaa Xaa Xaa Xaa
 20 25 30
 Xaa Ala Xaa Xaa Asn Gly Xaa Xaa Xaa Xaa Xaa Cys Lys Tyr Xaa Xaa
 35 40 45
 Pro Xaa Xaa Xaa Xaa Glu Phe Arg Xaa Xaa Leu Leu Lys Gly Xaa Asp
 50 55 60
 Ser Xaa Val Xaa Xaa Cys Xaa Xaa Xaa Xaa Thr Tyr Xaa Xaa Gly Asn
 65 70 75 80
 Xaa Val Xaa Xaa Lys Xaa Xaa Xaa Xaa Cys Xaa Gly Xaa Leu Ser Asn
 85 90 95
 Asn Ser Val Xaa Phe Xaa Leu Gln Asn Leu Xaa Xaa Xaa Xaa Thr Xaa
 100 105 110
 Xaa Tyr Phe Cys Lys Xaa Glu Xaa Met Tyr Pro Pro Pro Tyr Xaa Xaa
 115 120 125
 Xaa Xaa Xaa Asn Gly Thr Xaa Ile His Val Xaa Xaa Xaa Leu Cys

130	135	140
Pro Xaa Xaa Xaa Phe Xaa Xaa Trp Xaa Leu Xaa Xaa Val Xaa Xaa Xaa		
145	150	155
Leu Xaa Xaa Tyr Ser Xaa Leu Xaa Thr Ala Xaa Ile Xaa Xaa Xaa Xaa		
165	170	175
Xaa Lys Lys Arg Ser Xaa Leu Xaa Xaa Gly Xaa Tyr Met Xaa Met Xaa		
180	185	190
Pro Xaa Xaa Pro Xaa Xaa Xaa Lys Xaa Xaa Gln Pro Tyr Xaa Xaa		
195	200	205
Asp Phe Xaa Xaa Xaa Xaa		
210		

<210> 18
<211> 6
<212> PRT
<213> Homo sapiens

<400> 18
Met Tyr Pro Pro Pro Tyr
1 5

<210> 19
<211> 4
<212> PRT
<213> Homo sapiens

<400> 19
Tyr Met Asn Met
1

<210> 20
<211> 4
<212> PRT
<213> Homo sapiens

<400> 20
Tyr Val Lys Met
1

<210> 21
<211> 6
<212> PRT
<213> Homo sapiens

<400> 21
Phe Asp Pro Pro Pro Phe
1 5

<210> 22
<211> 4
<212> PRT
<213> Homo sapiens

<400> 22
Tyr Met Phe Met
1

<210> 23
 <211> 216
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> consensus sequence

<221> VARIANT
 <222> (1)...(216)
 <223> Xaa = Any Amino Acid

<400> 23

Met	Lys	Pro	Tyr	Phe	Ser	Cys	Val	Phe	Val	Phe	Cys	Phe	Leu	Ile	Lys
1				5				10		10			15		
Leu	Leu	Thr	Gly	Glu	Leu	Asn	Asp	Leu	Ala	Asn	His	Arg	Met	Phe	Ser
					20			25			30				
Phe	His	Asp	Gly	Gly	Val	Gln	Ile	Ser	Cys	Asn	Tyr	Pro	Glu	Thr	Val
					35			40			45				
Gln	Gln	Leu	Lys	Met	Gln	Leu	Phe	Lys	Asp	Arg	Glu	Val	Leu	Cys	Asp
				50			55			60					
Leu	Thr	Lys	Thr	Lys	Gly	Ser	Gly	Asn	Thr	Val	Ser	Ile	Lys	Asn	Pro
				65			70			75			80		
Met	Ser	Cys	Pro	Tyr	Gln	Leu	Ser	Asn	Asn	Ser	Val	Ser	Phe	Phe	Leu
				85				90					95		
Asp	Asn	Ala	Asp	Ser	Ser	Gln	Gly	Ser	Tyr	Phe	Leu	Cys	Ser	Leu	Ser
				100				105					110		
Ile	Phe	Asp	Pro	Pro	Phe	Gln	Glu	Lys	Asn	Leu	Ser	Gly	Gly	Tyr	
				115				120				125			
Leu	Leu	Ile	Tyr	Glu	Ser	Gln	Leu	Cys	Cys	Gln	Leu	Lys	Leu	Trp	Leu
				130			135				140				
Pro	Val	Gly	Cys	Ala	Ala	Phe	Val	Ala	Ala	Leu	Leu	Phe	Gly	Cys	Ile
				145			150				155			160	
Phe	Ile	Val	Trp	Phe	Ala	Lys	Lys	Tyr	Arg	Ser	Ser	Val	His	Asp	
				165				170				175			
Pro	Asn	Ser	Glu	Tyr	Met	Phe	Met	Ala	Ala	Val	Asn	Thr	Asn	Lys	Lys
				180				185				190			
Ser	Arg	Leu	Ala	Gly	Xaa										
				195				200				205			
Xaa															
				210					215						

<210> 24
 <211> 16
 <212> PRT
 <213> Rattus norvegicus

<400> 24

Leu	Arg	Ala	Leu	Gly	Arg	Gly	Glu	His	Ser	Ser	Cys	Gln	Asp	Arg	Asn
1				5				10				15			

<210> 25
 <211> 220
 <212> PRT
 <213> Homo sapiens

<400> 25

Met Leu Arg Leu Leu Leu Ala Leu Asn Leu Phe Pro Ser Ile Gln Val
 1 5 10 15
 Thr Gly Asn Lys Ile Leu Val Lys Gln Ser Pro Met Leu Val Ala Tyr
 20 25 30
 Asp Asn Ala Val Asn Leu Ser Cys Lys Tyr Ser Tyr Asn Leu Phe Ser
 35 40 45
 Arg Glu Phe Arg Ala Ser Leu His Lys Gly Leu Asp Ser Ala Val Glu
 50 55 60
 Val Cys Val Val Tyr Gly Asn Tyr Ser Gln Gln Leu Gln Val Tyr Ser
 65 70 75 80
 Lys Thr Gly Phe Asn Cys Asp Gly Lys Leu Gly Asn Glu Ser Val Thr
 85 90 95
 Phe Tyr Leu Gln Asn Leu Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys
 100 105 110
 Lys Ile Glu Val Met Tyr Pro Pro Tyr Leu Asp Asn Glu Lys Ser
 115 120 125
 Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro
 130 135 140
 Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly
 145 150 155 160
 Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile
 165 170 175
 Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met
 180 185 190
 Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro
 195 200 205
 Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser
 210 215 220

<210> 26
 <211> 223
 <212> PRT
 <213> Homo sapiens

<400> 26

Met Ala Cys Leu Gly Phe Gln Arg His Lys Ala Gln Leu Asn Leu Ala
 1 5 10 15
 Ala Arg Thr Trp Pro Cys Thr Leu Leu Phe Phe Leu Leu Phe Ile Pro
 20 25 30
 Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45
 Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly
 50 55 60
 Lys Ala Tyr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln
 65 70 75 80
 Val Thr Glu Val Cys Ala Ala Thr Tyr Met Thr Gly Asn Glu Leu Thr
 85 90 95
 Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val
 100 105 110
 Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
 115 120 125
 Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly
 130 135 140
 Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160
 Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
 165 170 175

Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
180 185 190
Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
195 200 205
Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
210 215 220